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10/683,966	10/10/2003	Jaroslav Hynecek	TI-36593	1855

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EXAMINER	
HENDERSON, ADAM	
ART UNIT	PAPER NUMBER
2622	
NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	**Application No.** 10/683,966	**Applicant(s)** HYNECEK, JAROSLAV	
	Examiner Adam L. Henderson	**Art Unit** 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1 August 2007 have been fully considered but they are not persuasive. Applicant alleges that Holmes et al. (US Patent 5,365,269) do not teach the claimed limitation of repeating the charge integration steps multiple times in a frame time. Applicant contends that column 5 lines 41-42 of Holmes et al. teach using more than one frame time. However what Holmes et al. are performing during a single 'frame', referred to throughout the rest of the disclosure by Holmes et al. merely as an 'image', is simply the integration and readout from the image sensor which corresponds directly with the 'integrating charge' and 'transferring' steps of applicant's claim 1.. Thus what Holmes et al. refer to in a few instances as frame, and far more frequently as image, corresponds directly with what Applicant calls the integration period. What Applicant refers to as the frame time cycle or the frame integration time cycle, which is never clearly defined within Applicant's specification beyond the time required to take all component sub-images (see page 6 lines 10-19 of the current application), corresponds directly with the total time required for all the sub images to be imaged and added together (as per column 6 lines 39-46 of Holmes et al.) and never explicitly named by Holmes et al. Holmes et al. even directly state in column 6 lines 47-54 that the multiple images are being used in the place of a single long integration image, the same desired results as the Applicant's current application. Therefore while the names applied by Holmes et al. and Applicant to the various portions of the total image accumulation period are different, it is not seen that that there is any significant difference in the actual operation of Holmes et al. and the device currently claimed by Applicant.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 6, 8, 10, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Holmes et al. (US Patent 5,365,269).

4. With regard to claim 1 Holmes et al. disclose a method for sensing an image (column 3 line 16 – column 8 line 2) comprising:

integrating charge in an image sensor array (array 50, FIG. 2, column 3 lines 60+);

transferring the charge out of the image sensor array (column 4 lines 1-11);

converting the charge to a digital signal (column 4 lines 1-17);

combining the digital signal with digital data stored in a memory device to form an integrated signal (column 5 line 40 – column 6 line 27);

storing the integrated signal in the memory device such that the integrated signal becomes the digital data (column 6 lines 5-16); and

repeating the above steps N times during a frame time cycle, where N is an integer greater than one (column 6 lines 39-46).

5. With regard to claim 2 Holmes et al. disclose the method of claim 1 wherein the step of the combining the digital signal with the digital data comprises summing the digital signal and the digital data to form the integrated signal (column 5 line 40 – column6 line 27).

6. With regard to claim 3 Holmes et al. disclose the method of claim 1 wherein the step of storing the integrated signal comprises storing the integrated signal in addresses corresponding to pixels in the image sensor array [since the data is originally from the image sensor, the data points are going to correspond to the pixels that they were taken in, thus each memory address holding a pixel data is going to correspond to a pixel from the sensor].

7. Claim 5 is rejected under the same analysis as claim 1.

8. With regard to claim 6 Holmes discloses the method of claim 5 further comprising reading a digital image signal from the memory device (column 3 lines 33-43) [if monitor 40 displays the image then the digital image data must inherently be read from the memory].

9. Claim 8 is rejected under the same analysis as claim 3.

10. Claim 10 is rejected under the same analysis as claim 1.

11. With regard to claim 12 Holmes discloses the device of claim 10 further comprising a shift register coupled to the array of image sensing pixels [the image sensor is a CCD (column 3 lines 44-60), it is inherent that the CCD have a shift register in order to read out the image data].

12. With regard to claim 13 Holmes et al. discloses the device of claim 12 further comprising a buffer amplifier coupled between the shift register and the analog-to-digital converter (pre-amp 60, FIG. 2).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 4, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes et al. (US Patent 5,365,269) in view of Ishibashi et al. (US Patent 5,630,064).

15. With regard to claim 4 Holmes et al. disclose the method of claim 1 and adding the digital signal and the digital data and storing the integrated signal back into the corresponding location in the memory device (column 5 line 40 – column 6 line 27), but fail to disclose the particulars of the addition method employed.

Ishibashi et al. disclose wherein the step of combining the digital signal with the digital data comprises:

loading a line of data from the digital signal (reception data) into a digital shift register (shift register 82);

retrieving a data line of the digital data (reference series M11) from a corresponding location in the memory device (reference series register 84); and

summing the line of data with the data line from the memory device (column 10 lines 33-38).

Holmes et al. and Ishibashi et al. are from similar fields of endeavor in that they are adding digital data.

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the method of Holmes et al. to include the addition method taught by Ishibashi et al. in order to provide explicit details on how the addition functions are performed.

16. Claims 9 and 11 are rejected under the same analysis as claim 4.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes et al. (US Patent 5,365,269) in view of Applicant's Admitted Prior Art.

18. With regard to claim 7 Holmes et al. disclose the method of claim 6 but fail to disclose further comprising converting the digital image signal to an analog signal.

Applicant discloses converting the digital image signal to an analog signal (D/A 111, FIG. 1, page 5 lines 3-8).

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the method of Holmes et al. to employ the D/A of Applicant's Admitted Prior Art in order to prepare the image signal for output to an analog display, since analog displays would be incapable of reading the digital data directly.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam L. Henderson whose telephone number is 571-272-8619. The examiner can normally be reached on Monday-Friday, 7am to 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ALH
15 October 2007

NGOC-YEN VU
SUPERVISORY PATENT EXAMINER